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State of the art

Soluble active ingredients are lipophilic by their structure certain either hydrophilic or. So far it is sufficient therefore conventional and, products with 2 phases, a fat phase and a water phase to equip in order to know each soluble active ingredient in a product combined-rich rich. Thereby it is independent whether the two phases exist discrete arranged in layers and thus organoleptic more distinguishable or are mixed with one another by emulsifiers. In order to have larger clearance with the combination from active ingredients to, one has already 3-Phasen-Emulsionsprodukte developed. The presence of 3 phases is not more perceptible in this shape for the user optical.

Object of the invention

If one could combine 3 or more phases in a product and this for the user optical would make comprehensible, one would have the subsequent advantages in a product:

1. More attractive optical product feature
2. Combination not combinable fabrics in various phases
3. Depot effects
4. Protection effects
5. Other effect and penetration kinetics

Conversion of the invention goal

Since all raw materials are lower partable first only in lipophilic and hydrophilic, the object of our invention did not seem more achievable. Only the offer of novel raw materials, which make problems with the formulation work of conventional products and Inkompartibilitäten with conventional raw materials show, the white path to the solution of the object.

So there is then bottom others
Fluoridated compounds (Fluorether, Perfluordekalin etc.)
Silicone derivatives (Cyclomethicon, Dimethicon etc.)
itself of a fat phase the existing out
Wax star and/or
Paraffinic oils and/or
Vegetable oils etc. separate, due to the specific gravity set off and with a water phase together 3 and more phases form, which can be offered in a product combined. These can be anfärben by utilization of the Nernst law and the solubility of dyes in the single phases good, different thereby, more distinguishable. In the various phases the there prefered soluble active ingredients can be integrated:
Water phase: water-soluble active ingredients
Fat phase: fat-soluble active ingredients
Perfluorinated phase: Gases such as oxygen, nitrogen
Silicone derivative phase: Protection components

Examples for the structure of 3 or more phasiger products
Example 1 phase 1
<tb>< TABLE> Columns=2>
<tb>< UCB AL=L> 20%
<tb> color Rouge outer grass< September> 0.3%
<tb> Bergamottenöl< September> 0.2%
<tb> Parabene< CEL AL=L> 0.4%
<tb>< /TABLE> Phase 2
<tb>< TABLE> Columns=2>
<tb>< UCB
<tb>< /TABLE> Phase 3
<tb>< TABLE> Columns=2>
<tb>< UCB AL=L> Kathon CG< September> 0.05%
<tb>< /TABLE> Phase 4
<tb>< TABLE> Columns=2>
<tb>< UCB
<tb>< /TABLE>

Ratio of the phases 1: 2 : 3 : 4 like 1: 1 : 1 : 0,2

Example 2
Phase 1
<tb>< TABLE> Columns=2>
<tb>< UCB AL=L> 2%
<tb> color FD & C blue< September> 0.02%
<tb> vitamin E acetate< September> 1.5%
<tb>< UCB AL=L> Parabene< CEL AL=L> 0.4%

<tb>< /TABLE> Phase 2
<tb>< TABLE> Columns=2>
<tb>< UCB
<tb>< /TABLE> Phase 3
<tb>< TABLE> Columns=2>
<tb>< UCB AL=L> hyaluronic acid< September> 0.04%
<tb> Kathon CG< September> 0,05%
<tb>< /TABLE> Phase 4
<tb>< TABLE> Columns=2>
<tb>< UCB
<tb>< /TABLE>

Ratio of the phases 1: 2 : 3 : 4 like 2: 1 : 2 : 0.5

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It becomes protection for product formulas, whose production and their application request, those the general formula

<tb>< TABLE> Columns=2>< TB)<> Phase AL=L> 0-100%
<tb> preservatives< September> 0-100%
<tb> AL=L> phase 2
<tb> not with phase 1 and 4 mixable components< September> ad 100%
<tb> fat-soluble colors< September> 0-100%
<tb> AL=L> phase 3
<tb> water< CEL AL=L> ad 100%
<tb>< UCB AL=L> hydrophilic solvents< September> 0-100%
<tb> water-soluble active ingredients< September> 0-100%
<tb> water-soluble dyes< September> 0-100%
<tb> preservation< September> 0-100%
<tb>< /TABLE>
<tb>< TABLE> Columns=2>< TB)<> Phase
<tb>< /TABLE> Ratio of the phases 1: 2 : 3 : 4 like 1: 0,001-1: 0,001-10: 0-1, how
Phase 1 from conventional oils
Phase 2 out with phase 1 and 4 not compatible lipophilic components with a specific gravity small 1
Phase 3 from water and hydrophilic solvents such as z. B. Propylene glycol, glycerol etc.
Phase 4 out with phase 1 and 2 not compatible lipophilic components, with a specific gravity large 1
exist, into those active ingredients, colors and preservation integrated in each case are.